

CLAIMS

1 1. A server based system for classification of images suspected as pornographic
2 comprising:
3 (a) a first defined interface between a client application and said server for
4 transferring images and related meta data;
5 (b) a database for storing and queuing the images and meta data associated
6 with said image;
7 (c) independent engine apparatus for automatically analyzing the images
8 using a plurality of independent review engines for a plurality of
9 criteria for analyzing results from said plurality of independent review
10 engines of said images into a single parameter representing a
11 likelihood value that an image is of pornographic nature;
12 and
13 (d) a second defined interface to convey a result of said analyzing to said
14 client application, said result including a list of most suspected images.

1 2. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said automatic analyzing eliminates a majority of said images
3 and is performed using color analysis on skin tone.

1 3. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said automatic analyzing eliminates a majority of said images
3 and is performed using a shape analysis.

1 4. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said automatic analyzing eliminates a majority of said images
3 and is performed by means of a curvature analysis.

1 5. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said automatic analyzing eliminates a majority of said images
3 and is performed by texture analysis.

1 6. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said automatic analyzing eliminates a majority of said images
3 and is performed by means of body pose and posture analysis.

1 7. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said automatic analyzing eliminates a majority of said images
3 and is performed by means of a combination of color analysis on skin tone, shape analysis,
4 curvature analysis, texture analysis, body pose and posture analysis.

1 8. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said images are clustered as a collection and said analyzing is
3 performed on said cluster.

1 9. A server-based system for classification of images suspected as pornographic
2 as recited in claim 8 wherein said analyzing of said cluster includes determining a collective
3 likelihood of the cluster based on combined statistical estimation of individual images in the
4 cluster.

1 10. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 further comprising:

- 3 (a) a first apparatus for performing an additional automated step to
- 4 eliminate a majority of said images that are positively non-
- 5 pornographic based on said likelihood value;
- 6 and
- 7 (b) a second apparatus for performing a manual review performed by
- 8 human reviewers to determine whether said most suspected images are
- 9 pornographic.

1 11. A server based system for classification of images suspected as pornographic
2 as recited in claim 10 further comprising an apparatus for creating a queue of said most
3 suspected images for said manual review based on a priority criteria.

1 12. A server based system for classification of images suspected as pornographic
2 as recited in claim 10 wherein said reviewers assign a rating to each image.

1 13. A server based system for classification of images suspected as pornographic
2 as recited in claim 10 wherein said reviewers assign a rating to a cluster of images.

1 14. A server based system for classification of images suspected as pornographic
2 as recited in claim 10 wherein said reviewers are supervised by a supervisor.

1 15. A server-based system for classification of images suspected as pornographic
2 as recited in claim 14 wherein said reviewers can escalate images that they are uncertain of to
3 said supervisor for determining if said images that said reviewers are uncertain of are
4 pornographic.

1 16. A server based system for classification of images suspected as pornographic
2 as recited in claim 11 wherein said priority criteria is a number of page views requested for
3 the image.

1 17. A server-based system for classification of images suspected as pornographic
2 as recited in claim 11 wherein said priority criteria is a statistical likelihood of a said image
3 being pornographic.

1 18. A server-based system for classification of images suspected as pornographic
2 as recited in claim 10 further comprising apparatus for creating a queue of a collection of
3 images based on a priority criteria.

1 19. A server based system for classification of images suspected as pornographic
2 as recited in claim 18 wherein said priority criteria is the percent of said suspected images in
3 said collection of images.

1 20. A server based system for classification of images suspected as pornographic
2 as recited in claim 18 wherein said priority criteria is the total number of said suspected
3 images within said collection of images.

1 21. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said images are sub sampled to the smallest image size available
3 which maintains sufficient data for said classification thus saving on transmission time
4 memory and bandwidth.

1 22. A server based system for classification of images suspected as pornographic
2 as recited in claim 1 wherein said client application is run on a remote computer, said images
3 suspected as pornographic obtained from a data storage subsystem of said computer, and said
4 system further comprising:

5 (a) a first apparatus for performing an additional automated step to
6 eliminate most images that are positively non-pornographic based on
7 said likelihood value thus maintaining only small numbers of
8 suspected images from said analyzing;

9 (b) a second apparatus for submitting images for a manual review step
10 performed by a human reviewer to determine whether said suspected
11 images from said automated step are pornographic;

12 and

13 (c) a third apparatus for performing a clean-up step to allow the deletion of
14 the objectionable pornographic images from said remote computer.

1 23. A server-based system for classification of images suspected as pornographic
2 as recited in claim 8 wherein said cluster is a continuous collection of individual frames,
3 which creates a single motion-picture clip.

1 24. A server based system for classification of images suspected as pornographic
2 as recited in claim 23 wherein a selection of said individual frames from said cluster for said
3 classification is determined by automatic detection of a change of scene in said motion
4 picture clip.

1 25. A server based system for classification of images suspected as pornographic
2 as recited in claim 23 wherein a selection of said individual frames from said cluster for said
3 classification is determined by a predefined interval of said individual frames.

1 26. A server-based system for classification of images suspected as pornographic
2 as recited in claim 8 wherein said cluster is a continuous collection of motion-picture clip.

1 27. A server based system for classification of copyrighted images comprising:
2 (a) a first-defined interface between a client application and a server to
3 transfer images and related meta data;
4 (b) a database to store and queue the images and said related meta data;
5 (c) independent engine apparatus to automatically analyze the images
6 using a plurality of criteria related to copyright material;
7 (d) apparatus for analyzing the individual reviews into a single parameter
8 representing a likelihood value that an image is copyrighted;
9 and
10 (e) a second-defined interface for conveying a result to said client
11 application.

1 28. A server based system for classification of copyrighted images as recited in
2 Claim 27 wherein said criteria include watermarking.

1 29. A server based system for classification of copyrighted images as recited in
2 Claim 27 wherein said copyright criteria include an existence of printed half tone patterns.

1 30. A server based system for classification of copyrighted images as recited in
2 Claim 27 wherein said copyright criteria include an existence of textual phrases that depict
3 celebrity images.

1 31. A server based system for classification of copyrighted images as recited in
2 Claim 27 wherein said copyright criteria include an existence of textual phrases that depict
3 current events.

1 32. A server based system for classification of copyrighted images as recited in
2 Claim 27 wherein said copyright criteria include a binary original of a copyright image.

1 33. A server based system for detection of graphically-offensive material in
2 images comprising:

- 3 (a) a first-defined interface between a client application and a server to
- 4 transfer images and related meta data;
- 5 (b) a database to store and queue the images and said related meta data;
- 6 (c) independent engine apparatus to automatically analyze the images
- 7 using a plurality of criteria related to said graphically offensive
- 8 material;
- 9 (d) apparatus for analyzing the individual reviews into a single parameter
- 10 representing a likelihood value that an image includes said graphically-
- 11 offensive material;
- 12 and
- 13 (e) a second-defined interface for conveying a result to said client
- 14 application.

1 34. A server based system for detection of graphically-offensive material in
 2 images as recited in Claim 33 wherein said criteria include the detection of known logos
 3 associated with politically adverse organizations.

1 35. A server based system for detection of graphically-offensive material in
 2 images as recited in Claim 33 wherein said criteria include the detection of known logos
 3 associated with hate crimes.

1 36. A server based system for detection of graphically-offensive material in
 2 images as recited in Claim 33 wherein said images include line art representation.

1 37. A server based system for detection of graphically-offensive material in
 2 images as recited in Claim 33 wherein said images include vector representation.

1 38. A server based system for detection of graphically-offensive material in
 2 images as recited in Claim 33 wherein said images include pixel representation.